# Bibliography of Soviet Laser Developments

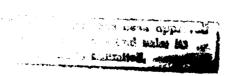
May - June 1987



Defense Intelligence Agency



DST-2700Z-003-88 June 1988



## BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 89

MAY - JUNE 1987

Date of Report
April 20, 1988

Vice Director for Foreign Intelligence Defense Intelligence Agency

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SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered)

REPORT DOCUMENTATION	READ INSTRUCTIONS BEFORE COMPLETING FORM				
1. REPORT NUMBER DST-2700Z-003-88	2. GOVT ACCESSION NO.				
4. TITLE (and Subtitle)	<u> </u>	5. TYPE OF REPORT & PERIOD COVERED			
BIBLIOGRAPHY OF SOVIET LASER DEVELOR MAY - JUNE 1987	PMENTS, No. 89	6. PERFORMING ORG. REPORT NUMBER			
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)			
9. PERFORMING ORGANIZATION NAME AND ADDRESS Defense Intelligence Agency Directorate for Scientific and Tech Intelligence		10 PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS			
11. CONTROLLING OFFICE NAME AND ADDRESS		April 20, 1988			
		13. NUMBER OF PAGES			
14. MONITORING AGENCY NAME & ADDRESS(If differen	t from Controlling Office)	15. SECURITY CLASS, (of this report)			
		UNCLASSIFIED			
		15a. DECLASSIFICATION/DOWNGRADING			
15. DISTRIBUTION STATEMENT (of this Report)					
Approved for public release; distri	bution unlimited	I			
17. Distribution Statement (of the abstract entered in Block 20, if different from report)					
18. Supplementary Notes	18. Supplementary Notes				
19. KEY WORDS					
Solid State Lasers, Liquid Lasers, Cas Lasers, Chemical Lasers, Laser Components, Nonlinear Optics, Spectroscopy of Laser Materials, Ultrashort Pulse Generation, Free Flectron Lasers, Laser Theory, Laser Biological Effects, Laser Computer Communications, Laser Beam Propagation, Adaptive Optics, Laser Computer Technology, Holography, Laser Chemical Effects, Laser Parameters, Laser Measurement Applications, Laser-Excited Optical Effects, Laser Spectroscopy, Laser Beam-Target Interaction, Laser Plasma					
20. ABSTRACT					
This is the Soviet Laser Bibliography for May-June 1987, and is No. 89 in a continuing series on Soviet Laser developments. The coverage includes basic research or solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications systems; beam propagation; adaptive optics; commuter technology; belography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.					

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#### INTRODUCTION

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is May-June 1987, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Soviet Reference Journals (journals of abstracts) are also included. Laser items from the popular or semipopular press are generally omitted. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library.

Since our computer is not now able to print between lines, superscripts and subscripts are indicated by (sup) and (sub).

We are producing the entire bibliography on computer. To make our bibliography compatible with other data bases, for source abbreviations, we use the letter codens generally used in our own government rather than transliterations of abbreviations used in the Soviet Union. Likewise, we use letter codens to designate affiliations. The authors' affiliations are indicated in parentheses after the authors' names in the text. Empty parentheses indicate that the affiliation was not given. A source abbreviations list, authors' affiliations list, and author index are included in the back of the bibliography.

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#### I. BASIC RESEARCH

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#### J. BEAM-TARGET INTERACTION

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#### IV. SOURCE ABBREVIATIONS

(Note: CTC = cover-to-cover translation available)

AKZHA Akusticheskiy zhurnal (CTC)

ANPYA Annalen der Physik (Leipzig)

AVMEB Avtometriya (CTC)

**BWATA** Biuletyn Wojskowej akademii technicznej imeni Jaroslawa Dabrowskiego

CICHRIRS International Conference on High Resolution

Infrared Spectroscopy

CIWKIlme Internationales wissenschaftliches Kolloquium,

Ilmenau

CKCFA Ceskoslovensky casopis pro fysiku

CKSVVTPr Kratkosrochnyy seminar: Vnedreniye

vysokoeffektivnykh tekhnologiskikh protsessov s primeneniyem lazerov v promyshlennosti pri realizatsii programmy Intensifikatsiya-90

CMKUChVE Mezhdunarodnaya konferentsiya po uskoritelyam

chastits vysokikh energiy

CMShANIs Mezhdunarodnaya shkola po avtomatizatsii

nauchnykh issledovaniy

CRABA Bolgarskaya akademiya nauk. Doklady (formerly:

Bulgarska akademiya na naukite. Doklady)

CRNPUNTP Regional'nyy nauchno-praktikum:

Molodyye uchenyye i spetsialisty po

uskoreniyu nauchno-tekhnicheskogo progressa. Kibernetika, ASU, matematicheskiye metody

v tekhnike i narodnom khozyaystve.

Fiziko-matematicheskiye nauki

CRTED Crystal Research and Technology (East Berlin)

(formerly Krystal und Technik)

CSASLOKS Sovetsko-amerikanskiy simpozium: Lazernaya

optika kondensirovannykh sred

CVEFVLFV viescyuznaya konterentsiya po fizike vakuumnogo ul'traficleta i yego vzaimodeystviyu s veshchestvom

CVFCLaze Vsesoyuznaya konferentsiya: Optika lazerov

CVECVFLT Vsesoyuznaya konferentsiya: Obrashcheniye volnogo fronta lazernogo izlucheniya v nelineynykh sredakh

CVSDRVol Vsesoyuznyy simpozium po difraktsii i rasprostraneniyu voln

CVShGPri Vsesoyuznaya shkola: Golografiya i yeye primeneniye

CVShKECP Vsesoyuznaya shkola-konferentsiya:
Kineticheskiye i gazodinamicheskiye protsessy
v neravnovesnykh sredakh

CVSLSCOI Vsesoyuznaya shkola-seminar po opticheskoy obrabotke informatsii

CVSLARri Vsesoyuznoye soveshchaniye po lyuminestsentsii neorganicheskikh kristallov

CVSCSUIP Vecsoyuznoje govoshchaniye: Opticheskiye skanirujushchiye ustroyetva i izmeritel'nyye piilory ra ikh osnove

CVSFFIRE Vsecoyuznyy simpozium po rasprostraneniyu lazernose izlucheniya v atmosfere

CZYPA Czechoslovak Journal of Physics

DANAA Akademiya nauk Armyanskoy SSR. Doklady

DANKA Akademiya nauk SSSk. Doklady (CTC)

DANUA Akademiya nauk Uzbekskoy SSR. Doklady

DBLDA Akademiya nauk BSSR. Doklady

DLPLA Dielektriki i poluprovodniki (sbornik, Kiyev)

DUKAB Akademiya nauk Ukrayns'koy RSR. Dopovidi. Seriya A. Fiziko-matematychni ta tekhnichni rauki

ETFMB Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika EXPPA Eksperimentelle Technik der Physik **FECAA** Fizika elementarnykh chastits i atomnogo yadra FGRTA. Peingeraetetechnik FIPI.D Fizika plazmy (Moskva, AN SSSR) (CTC) Fizika i khimiya obrabotki materialov FKOMA FKSTD Fizika i khimiya stekla (CTC) **FMMTA** Fizika metallov i metallovedeniye (CTC) FTPPA Fizika i tekhnika poluprovodnikov (CTC) ATVT 1 Fizika tverdogo tela (CTC) FZELA Fizicheskaya elektronika (sbornik, L'vov) Godishnik na Sofiyskiya universitet. CSUFA Fizicheski fakultet Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika IAAFA TAKEB Akademiya nauk Kazakhskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk IANFA Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya (CTC) Inzhenerno-fizicheskiy zhurnal (CTC) INFZA Akademiya nauk Uzbekskoy SSR. Izvestiya. JUZFA Seriya fiziko-matematicheskikh nauk TVUF'A Izvestiya vysshikh uchebnykh zavedeniy. Fizika (CTC) IVUSA Izvestiya vysshikh uchebnykh zavodeniy. Mashinostroyeniye IVUZB Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika

Izmeritel'naya tekhnika (CTC)

Radiofizika (CTC)

Izvestiya vysshikh uchebnykh zavedeniy.

IVYRA

IZTEA

JMKOA Jemna mechanika a optika

JTPHD Journal of Technical Physics (Poland)

KHVKA Khimiya vysokikh energiy (CTC)

KRISA Kristallografiya (CTC)

KRSFA Kratkiye soobshcheniya po fizike (CTC)

KVEKA Kvantovaya elektronika (journal, Moskva) (CTC)

MEAUA Meres es automatika

OPAPB Optica applicata (Poland)

OPMPA Optiko-mekhanicheskaya promyshlennost' (CTC)

OPSPA Optika i spektroskopiya (CTC)

OPTED Optoelektronika i poluprovodnikovaya tekhnika (Kiyev)

OTIZD Otkrytiya, izobreteniya (formerly included in OIPOB)

PFKMD Poverkhnost'. Fizika, khimiya, mekhanika (Moskva)

PRTEA Pribory i tekhnika eksperimenta (CTC)

PSSAB Physica status solidi (A). Applied Research (CDR)

PSSBB Physica status solidi (B). Basic Research (CDR)

PZTFD Zhurnal tekhnicheskoy fiziki. Pis'ma (CTC)

RADID Nauchnyye trudy vysshikh uchebnykh zavedeni; Litovskoy SSR. Radioelektronika (Kaunas)

RAELA Radiotekhnika i elektronika (journal, Moskva) (CTC)

RATEA Radiotekhnika (journal, Moskva) (CTC)

RRPQA Revue Roumaine de Physique

RTKHA Radiotekhnika (sbornik, Khar'kov)

RZFZA Referativnyy zhurnal. Fizika

RZGFA Referativnyy zhurnal. Geofizika

RZRAB Referativnyy zhurnal. Radiotekhnika

STKRA Steklo i keramika (CTC)

SUDOA Sudostroyeniye (Leningrad)

SVMVD Spektrokhimiya vnutri- i mezhmolekulyarnykh vzaimodeystviy (sbornik, Leningrad)

TKTEA Tekhnika kino i televideniya

TMFZA Teoreticheskaya i matematicheskaya fizika (CTC)

TVYTA Teplofizika vysokikh temperatur (CTC)

UFIZA Ukrainskiy fizicheskiy zhurnal (Russian language version) (CTC)

VAFEA Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-energeticheskikh nauk

VBMFA Belorusskiy universitet. Vestnik. Seriya l. Matematika, fizika, mekhanika

VMUFA Moskovskiy universitet. Vestnik. fizika, astronomiya (CTC)

ZETFA Zhurnal eksperimental'noy i teoreticheskoy fiziki (CTC)

ZFKHA Zhurnal fizicheskoy khimii (CTC)

ZFPRA Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma (CTC)

ZNPFA Zhurnal nauchnoy i prikladnoy fotografii i kinematografii (CTC)

ZPSBA Zhurnal prikladnoy spektroskopii (CTC)

ZRBEA Zarubezhnaya radioelektronika

ZSTKA Zhurnal strukturnoy khimii (CTC)

ZTEFA Zhurnal tekhnicheskoy fiziki (CTC)

### V. AUTHOR AFFILIATIONS

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AKIN
  Akusticheskiy institut AN SSSR
  Acoustics Institute, Academy of Sciences USSR
  Altayskiy gos universitet
  Altai State University, Barnaul
Istrcsovet
  Astronomicheskiy sovet AN SSSR
  Astronomy Council, Academy of Sciences USSR, Moscow
  Elektrotekhnicheskiy institut svyazi
  Electrotechnical Institute of Communications, Leningrad
FIAN
  Fizicheskiy institut im Lebedeva AN SSSR
  Physics Institute imeni Lebedev, Academy of Sciences
    USSR, Moscow
  Fiziko-tekhnicheskiy institut im Ioffe AN SSSR
  Physicotechnical Institute im Ioffe, Academy of
    Sciences USSR, Leningrad
CECKhi
  Institut geokhimii i analiticheskoy khimii
    im Vernadskogo AN SSSR
  Institute of Geochemistry and Analytical Chemistry
    imeni Verraoskiy, Academy of Sciences USSR, Moscow
  Gor'kovskiy gos universitet
  Cor'kiy State University
015
  Cos 111 stekla
  State Scientific Research Institute of Glass, Moscow
  Cosudarstvennyy opticheskiy institut im Vavilova
  State Optical Institute imeni Vavilov, Leningrad
Goskomaidromet
  Cos komitet SSSR po giarometeorologii i
    kontrolyu prirodnoy breay
  USSP State Committee on Hydrometeorology and
    Environmental Control
CFI
  Cor'kovskiy politekhnicheskiy institut.
 Gor'kry Polytechnical Institute.
  Institut atomnoy energii im Kurchatova
  Institute of Atomic Fnergy imeni Kurchatov, Moscow
IAESOAN
  Institut avtomatiki i elektrometrii SOAN
  Institute of Automation and Electronic Measurements,
    Siberian Branch Academy of Sciences USSR
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TAPU Institut avtomatiki i protsessov upravleniya s Vychislitel'nym tsentrom Dal'nevostochnogo nauchnogo tsentra AN SSSR Institute of Automation and Control Processes with Computer Center, Far Eastern Scientific Center, Academy of Sciences USSR **IEANBel** Institut elektroniki AN BSSR Institute of Electronics, Academy of Sciences Belorussian SSR, Minsk Institut eksperimental'noy meteorologii Institute of Experimental meteorology, Obninsk IFANAz Institut fiziki AN AzSSR Institute of Physics, Academy of Sciences Azerbaydzhan SSR **IFANB** Institut fiziki AN BSSR Institute of Physics, Academy of Sciences Belorussian SSR, Minsk IFANEst Institut fiziki AN EstSSR Institute of Physics, Academy of Sciences Estonian SSR IFANLa Institut fiziki AN LatSSR Institut of Physics, Academy of Sciences Latvian SSR, Salaspils **JFANUk** Institut fiziki AN UkrSSR Institute of Physics, Academy of Sciences Ukrainian SSR, Kiev IFI Institut fizicheskikh issledovaniy AN ArmSSR Institute of Physics Research, Academy of Sciences Armenian SSR IFM Institut fiziki metallov Ural'skogo nauchnogo tsentra AN SSSR Institute of Physics of Metals, Ural Scientific Center, Academy of Sciences USSR, Sverdlovsk

IFP

Institut fizicheskikh problem AN SSSR Institute of Problems of Physics, Academy of Sciences USSR

**IFPV** 

Institut fiziki poluprovodnikov AN LitSSR Institute of Semiconductor Physics, Academy of Sciences Lithuanian SSR, Vilnius

**IFSOAN** 

Institut fiziki SOAN

Institute of Physics, Siberian Branch Academy of Sciences USSR, Krasnovarsk

IFTT

Institut fiziki tverdogo tela AN SSSR Institute of Solid State Physics, Academy of Sciences USSR, Chernogolovka

**IFTTP** 

Institut fiziki tverdogo tela i poluprovodnikov AN BSSR Institute of Solid State and Semiconductor Physics, Academy of Sciences Belorussian SSR, Minsk IGGUral

Institut geologii i geokhimii Ural'skogo nauchnogo tsentra AN SSSR,

Institute of Geology and Geochemistry, Ural Science Center, Academy of Sciences USSR, Sverdlovsk

IKAN

Institut kristallografii AN SSSR Institute of Crystallography, Academy of Sciences USSR, Moscow

IKatAN

Institut kataliza SOAN

Institute of Catalysis, Siberian Branch Academy of Sciences USSR, Akademgorodok in Novosibirsk

IKhAN

Institut khimii AN SSSR

Institute of Chemistry, Academy of Sciences USSR, Gor'kiy

IKhBFANEs

Institut khimicheskoy i biologicheskoy fiziki AN EstSSR

Institute of Chemical and Biological Physics, Academy of Sciences Estonian SSR

IKhF

Institut khimicheskoy fiziki AN SSSR

Institute of Physics of Chemistry, Academy of Sciences USSR, Chernogolovka

IKhKG

Institut khimicheskoy kinetiki i goreniya SOAN Institute of Chemical Kinetics and Combustion, Siberian Branch Academy of Sciences USSR, Novosibirsk

IKI

Institut kosmicheskikh issledovaniy AN SSSR Institute of Space Research, Academy of Sciences USSR

Institut metallurgii im Baykova Institute of Metallurgy imeni Baykov, Moscow

Institut metallofiziki AN UkrSSR Institute of Physics of Metals, Academy of Sciences Ukrainian SSR, Kiev

# IMSS

Institut mekhaniki sploshnykh sred Ural'skogo nauchnogo tsentra AN SSSR

Institute of Continuum Mechanics, Ural Science Center, Academy of Sciences USSR, Perm'

IOA

Institut optiki atmosfery SOAN

Institute of Atmospheric Optics, Siberian Branch Academy of Sciences USSR

TOF

Institut obshchey fiziki AN SSSR

Institute of General Physics, Academy of Sciences USSR, Moscow

IOKhN

Institut organicheskoy khimii SOAN

Institute of Organic Chemistry, Siberian Branch Academy of Sciences USSR, Novosibirsk

**IPANUk** 

Institut poluprovodnikov AN UkrSSR

Institute of Semiconductors, Academy of Sciences Ukrainian SSR, Kiev

IPF

Institut prikladnoy fiziki AN SSSR
Institute of Applied Physics, Academy of Sc

Institute of Applied Physics, Academy of Sciences USSR, Gor'kiy

IPM

Institut prikladnoy matematiki AN SSSR

Institute of Applied Mathematics, Academy of Sciences USSR

**IPMat** 

Institut problem material ovedeniya AN UkrSSR Institut of Problems of Material Science,

Academy of Sciences Ukrainian SSR

I PMe

Institut problem mekhaniki AN SSSR

Institute of Problems of Mechanics, Academy of Sciences USSR, Moscow

IRA

Institut radioelektroniki AN SSSR

Institute of Radioelectronics, Academy of Sciences USSR, Moscow

IRE

Institut radiotekhniki i elektroniki AN SSSR

Institute of Radioengineering and Electronics, Academy of Sciences USSR, Moscow

IRFEANUK

Institut radiofiziki i elektroniki AN UkrSSR

Institute of Radiophysics and Electronics, Academy of Sciences Ukrainian SSR

**ISAN** 

Institut spektroskopii AN SSSR

Institute of Spectroscopy, Academy of Sciences USSR

ISE

Institut sil'notochnoy elektroniki SOAN

Institute of High-Current Electronics, Siberian Branch Academy of Sciences USSR, Tomsk

ITEF

Institut teoreticheskoy i eksperimental'noy fiziki Institute of Theoretical and Experimental Physics, Moscow ITF

Institut teplofiziki SOAN

Institute of Thermophysics, Siberian Branch Academy of Sciences USSR, Novosibirsk

ITMO

Institut teplo- i massoobmena AN BSSR

Institute of Heat and Mass Exchange, Academy of Sciences Pelorussian SSR

ITPM

Institut teoreticheskoy i prikladnoy mekhaniki SOAN Institute of Theoretical and Applied Mechanics, Siberian Branch Academy of Sciences USSR, Novosibirsk

IVTAN

Institut vysokikh temperatur AN SSSR

Institute of High Temperatures, Academy of Sciences USSR IYaFANKaz

Institut yadernoy fiziki AN KazSSR

Institute of Muclear Physics, Academy of Sciences Kazakh SSR, Alma-Ata

IYaFANUz

Institut yadernoy fiziki AN UzSSR

Institute of Nuclear Physics, Academy of Sciences Uzbek SSR, Ulugbek

IYaFSOAN

Institut jaderncy fiziki SOAN

Institute of Nuclear Physics, Siberian Branch Academy of Sciences USSR, Novosibirsk

KamPI

Kamskiy politekhnicheskiy institut

Kamskiy Polytechnic Institute

KazanPT

Razanskiy pedagogicheskiy institut

Kazan' Pedagogical Institute

KazISI

Kazanskiy inzhenerno-stroitel'nyy institut

Kazan' Civil Engineering Institute

KazNIITFP

Kazanskiy NI tekhnologicheskiy i proyektnyy institut

khimiko-fotograficheskoy promyshlennosti

Kazan' Scientific Research, Technical and Planning Institute of the Chemical-Photographic Industry

Kiyevskiy gos universitet Kiev State University

KhFTI Khar'kovskiy fiziko-tekhnicheskiy institut AN UkrSSR Khar'kov Physicotechnical Institute, Academy of Sciences Ukrainian SSR Khar'kovskiy gos universitet Khar'kov State University Kiyevskiy institut inzhenerov grazhdanskoy aviatsii Kiev Institute of Civil aviation Engineers KIYaI Institut yadernykh issledovaniy AN UkrSSR Institute of Nuclear Research, Academy of Sciences Ukrainian SSR, Kiev KomGMI Kommunarskiy gorno-metallurgicheskiy institut Kommunarsk Mining and Metallurgy Institute KuISI Kuybyshevskiy inzhenerno-stroitel'nyy institut Kuybyshev Civil Engineering Institute Latviyskiy gos universitet Latvian State University Leningradskiy dom nauchno-tekhnicheskoy propagandy Leningrad House of Scientific and Technical Propaganda Leningradskiy mekhanicheskiy institut Leningrad Mechanical Institute LETI Leningradskiy elektrotekhnicheskiy institut Leningrad Electric Engineering Institute LGU Leningradskiy gos universitet Leningrad State University LPI Leningradskiy politekhnicheskiy institut Leningrad Polytechnic Institute LTI Leningradskiy tekhnologicheskiy institut Leningrad Technological Institute L'vovskiy gos universitet L'vov State University Moskovskiy aviatsionnyy institut Moscow Aviation Institute MarGU Mariyskiy GU

Mari State University, Yoshkar-Ola

MEI Moskovskiy energeticheskiy institut Moscow Power Engineering Institute Moskovskiy gos universitet Moscow State University Moskovskiy institut elektronnogo mashinostroyeniya Moscow Institute of Electronic Machinery MIET Moskovskiy institut elektronnoy tekhniki Moscow Institute of Electronic Engineering MIFI Moskovskiy inzhenerno-fizicheskiy institut Moscow Engineering Physics Institute MIIGAiK Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography MIREA Moskovskiy institut radiotekhniki, elektroniki i avtomatiki Moscow Institute of Radio Engineering, Electronics and Automation NI fiziko-khimicheskiy institut im Karpova Scientific Research Institute of Physicochemistry imeni Karpov NII elektrofizicheskoy apparatury im Yefremova Scientific Research Institute of Electrophysical Equipment imeni Yefremov, Leningrad NIIFKS NII fiziki kondensirovannykh sred Yerevanskogo gos universiteta Scientific Research Institute of the Physics of Condensed Media of Yerevan State University NII fiziki pri Leningradskom gos universitete Scientific Research Institute of Physics at Leningrad State University NIIFRGU NII fiziki Rostovskogo gos universiteta Scientific Research Institute of Physics of Rostov State University NIIFTT NII fiziki tverdogo tela Latviyskogo GU

Scientific Research Institut of Solid State Physics

of the Latvian State University, Riga

## MIIMPM

NII mekhaniki i prikaldnoy matematiki Rostovskogo GU Scientific Research Institute of Mechanics and Applied Mathematics of Rostov State University

NIIPFP

NII prikladnykh fizicheskikh problem pri Belorusskom gos universitete

Scientific Research Institute of Applied Physics Problems at Belorussian State University

NIIYaF

NII yadernoy fiziki pri Moskovskom gos universitete Scientific Research Institute of Nuclear Physics at Moscow State University

NIIYaFT

NII yadernoy fiziki pri Tomskom politekhnicheskom institute

Scientific Research Institute of Nuclear Physics at Tomsk Polytechnic Institute

NIKFI

NI kinofotoinstitut

Scientific Research Institute of Motion Pictures and Photography, Moscow

NITSTLAN

NI tsentr po tekhnologicheskim lazeram AN SSSR Scientific Research Center for Industrial Lasers, Academy of Sciences USSR

NIVTs

NI vychislitel'nyy tsentr AN SSSR Scientific Research Computer Center, Academy of Sciences USSR, Pushchino

Nauchnyy sovet po probleme "Lyuminestsentsiya i razvitiye yeye primeneniy v narodnom khozyaystve" AN SSSR

Scientific Council on Luminescence and the Development of its Applications in the National Economy, Academy of Sciences USSR

NTsBI

Nauchnyy tsentr biologicheskikh issledovaniy AN SSSR Scientific Center of Biological Research, Academy of Sciences USSR, Pushchino

OGU

Odesskiy gos universitet Odessa State University OIYaI

Ob"yedinennyy institut yadernykh issledovaniy Joint Institute of Nuclear Research, Dubna

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  Otdeleniye NII tekhniko-ekonomicheskikh issledovaniy
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    Economic Studies of the Chemical Industry, Cherkassy
ONSOptika
  Ob"yedinenyy nauchnyy sovet AN SSSR po kompleksnoy
    probleme "Optika"
  Joint Scientific Council on Optics, Academy of Sciences
    USSR
PGI
  Polyarnyy geofizicheskiy institut Kol'skogo filiala
    AN SSSR
  Polar Geophysical Institute, Kola Branch, Academy of
    Sciences USSR, Apatity
  Penzenskiy politekhnicheskiy institut
  Penza Polytechnic Institute
  Rostovskiy gos pedagogicheskiy institut
  Rostov State Pedagogical Institute
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  Rostovskiy-na-Donu gos universitet
  Rostov on Don State University
  Rizhskiy meditsinskiy institut
  Fica Medical Institute
ROVPI
  Rovenskiy redagogicheskiy institut
  Royro Pedagogical Institute
  Radiotekhnicheskly institut AN SSSR
  Radioengineering Institute, Academy of Sciences
    USSR. Moscow
SamGU
  Samarkandskiy gos universitet
  Samarkand State University
  Sovet po avtomatizatsii nauchnykh issledovaniy
    AN SSSP
  Council on Automation of Scientific Research,
    Academy of Sciences USSR
SFTI
  Sibirskiy fiziko-tekhnicheskiy institut im Kuznetsova
  Siberian Physicotechnical Institute imeni Kuznetsov,
    Tomsk
SimGU
  Simferopol'skiy gos universitet
  Simferopol State University
SPEI
  Stavropol'skiy pedagogicheskiy institut
  Stavropol' Pedagogical Institute
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TashGU
  Tashkentskiy gos universitet
  Tashkent State University
TashPI
  Tashkentskiy politekhnicheskiy institut
  Tashkent Polytechnic Institute
  Tomskiy politekhnicheskiy institut
  Tomsk Polytechnic Institute
TSNIIGAIK
  Tsentral'nyy NII geodezii, aerofotos"yemki i kartografii
  Central Scientific Research Institute of Geodesy, Aerial
    Photography and Cartography, Moscow
  Tyumenskiy gos university
  Tyumen State University
  Universitet druzhby narodov im Lumumby
  University of Friendship Among Peoples
    imeni Lumumba, Moscow
UkrNIINTI
  Ukrainskiy NII nauchno-tekhnicheskoy informatsii i
    tekhniko-ekonomicheskikh issledovaniy Gosplana
  Ukrainian Scientific Research Institute of Scientific
    and Technical Information and of Technical Economic
    Studies for the State Plan of the Ukrainian SSR, Kiev
  Ulyanovskiy politekhnicheskiy institut
  Ulyanovsk Polytechnic Institute
  Uzhgorodskiy gos universitet
  Uzhgorod State University
  Vsesoyuznyy elektrotekhnicheskiy institut
  All-Union Electrical Engineering Institute, Moscow
  Voronezhskiy gos universitet
  Voronezh State University
VilGU
  Vil'nyusskiy gos universitet
  Vilnius State University
VINITI
  Vsesoyuznyy institut nauchnoy i tekhnicheskoy
    informatsii
  All-Union Institute of Scientific and Technical
    Information, Moscow
VLTI
  Voronezhskiy lesotekhnicheskiy institut
  Voronezh Forestry Institute
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## VNIFTRI

VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy

All-Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements, Moscow VNIIMono

VNII monokristallov, stsintillyatsionnykh materialov i osobo chistykh khimicheskikh veshchestv

All-Union Scientific Research Institute of Single Crystals, Scintillation Materials and Extra Pure Chemical Substances, Khar'kov

VNIIOFI

YeFI

VNII optiko-fizicheskikh izmereniy All-Union Scientific Research Institute of Optophysical Measurements, Moscow VNITsISPiV

VNI tsentr po izucheniyu svoystv poverkhnosti i vakuuma All-Union Scientific Research Center for Studying the Properties of Surfaces and Vacuums, Moscow

Yerevanskiy fizicheskiy institut Yerevan Physics Institute YeGU

Yerevanskiy gos universitet Yerevan State University

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